

two or more names having the same mnemonic address have been stored.

3. The device according to claim 1 wherein said storing means comprises means for replacing data stored under a name by another data item.

4. The device according to claim 1 wherein said storing means includes means for storing additional data under said names under which previous data has been stored.

5. The device according to claim 1 wherein said retrieving means includes protective means requiring inputting of a secret code in order to retrieve said data.

6. The device according to claim 1 further comprising means for storing data items at a memory address and for retrieving said data items by inputting said address.

7. The device according to claim 1 further comprising a calculating circuit means in said device for performing mathematical calculations under the control of said keyboard and for displaying the results of said calculations by said display means, and switch means for shifting between calculating mode of operation and teleaddress mode of operation.

8. The device according to claim 1 wherein said retrieving means includes means for converting retrieved data representing one of said telephone numbers into a sequence of dialing tones receivable by a telephone system to actuate switching gear to make a connection with the telephone of a person whose name has been inputted by said keyboard.

9. The device according to claim 8 wherein said converting means comprises touch tone signal generating means receiving said retrieved data, a wave shaper receiving output of said generating means, an audio amplifier for amplifying an output of said wave shaper, and a speaker driven by said amplifier.

10. The device according to claim 1 further comprising input/output bus for programming said device.

11. The device according to claim 10 further comprising an input/output bus for outputting information directly into a phone system or a credit card system.

12. An electronic credit card and direct dialing device comprising:

a case of a size to fit in the user's wallet corresponding to the size of a credit card and to be held in hand during use or inserted into a corresponding input device;

read/write memory circuit in said case for storing and outputting data corresponding to credit card preselected information;

means for feeding data to the memory corresponding to a plurality of account numbers or access numbers to be stored;

means for sensing a dial tone and request tones from a telephone, said means for sensing capable of sensing said dial tone and request tones from an earpiece of said telephone when said device is located at a mouthpiece of said telephone;

a speaker;

means for imparting an audio signal from said speaker identified by a phone system for dialing a telephone

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number, inputting data, and entering selected ones of said account or access numbers;
means for automatically actuating an audio signal corresponding to a charge number upon sensing said dial tone from said telephone, said audio signal being imparted to said telephone to complete a call; a data bus; and
retrieving means for retrieving said data stored by said memory to be output to said speaker or data bus.

13. The device according to claim 12 wherein said retrieving means includes means for converting said retrieved data into a sequence of dialing tones receivable by a telephone system for at least one of the following: to complete said call, to access a desired telephone system, and to make use of a credit card account.

14. The device according to claim 13 wherein said converting means comprises touch tone signal generating means receiving said retrieved data, a wave shaper receiving an output of said generating means, an audio amplifier for amplifying an output of said wave shaper, and said speaker being driven by said amplifier.

15. The device according to claim 12 further comprising input/output bus for programming said device.

16. The device according to claim 15 further comprising an input/output bus for outputting information directly into a phone system or a credit card system.

17. An electronic credit card sized direct dialing device comprising:

a case of a size to fit in a user's wallet corresponding to the size of a credit card and to be held in hand during use or inserted into a corresponding input device;

a shift register memory for storing data;

a clock connected to said shift register for imparting a clock signal thereto;

a switch connected to said shift register and to said clock for actuating said clock and said shift register to shift data out of said shift register;

means for sensing a dial tone and request tones from a telephone, said means for sensing capable of sensing said dial tone and request tones from an ear-piece of said telephone when said device is located at a mouthpiece of said telephone;

means for actuating an audio signal corresponding to a charge number upon sensing said dial tone from said telephone, said audio signal being imparted to said telephone to complete a call; and

an encoder in operative connection with said shift register for converting a signal from said shift register to signals to operate a speaker for emitting touch tone frequencies corresponding to a user's account number.

18. The device according to claim 17 further comprising input/output bus for programming said device.

19. The device according to claim 18 further comprising an input/output bus for outputting information directly into a phone system or a credit card system.

20. The device according to claim 17 further comprising a printed circuit board wherein said shift register, said clock, said means for sensing the dial tone, said means for actuating an audio signal and said encoder are embedded on the printed circuit board to minimize size.

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1 21. A credit card sized communications device comprising:
2 a credit card sized housing insertable into a computer and couplable to a
3 telephone, said credit card sized housing including:
4 a) a processor;
5 b) a plurality of control lines being coupled to the processor;
6 c) a data bus coupled to the processor;
7 d) an address bus coupled to the processor;
8 e) a memory coupled to the processor via the data bus and the address
9 bus, wherein the processor retrieves data over the data bus from the memory
10 by specifying an address over the address bus, and stores data in the memory
11 by transmitting the data over the data bus to the memory and by specifying
12 the address over the address bus;
13 f) an input/output port couplable to a computer and to a telephone
14 network, said input/output port being coupled to the processor via the data
15 bus and a plurality of control lines, transmitting data to and from the
16 processor via the data bus, and receiving data from and transmitting data to
17 the computer and telephone network, said input/output port controlled by the
18 processor via the plurality of control lines, wherein said processor outputs a
19 plurality of access signals to the input/output port upon detecting an available
20 access signal from the telephone network and then waits until receiving an
21 additional signal from the telephone network via the input/output port before
22 sending additional data signals to the telephone network via the input/output
23 port.

1 22. The device according to claim 21, wherein the input/output port further
2 comprises a microphone and a speaker that transmit audible signals to and from a
3 telephone handset to access the telephone network.

1 23. The device according to claim 21, wherein the processor receives access
2 data from the computer and at least temporarily stores the access data in the memory.

1 24. The device according to claim 21, wherein the processor is
2 programmable from an external source with access data.

1 25. The device according to claim 21, wherein the additional data signals
2 include account information and the additional signal includes a request signal.

1 26. An electronic credit card sized direct dialing device comprising:
2 a case of a size and shape corresponding to the size and shape of a credit
3 card to be inserted into a computer;
4 an output unit disposed in the case and outputting a first signal identifiable by
5 a telephone network as a telephone number;
6 an input unit disposed in the case and receiving an available access signal and
7 a request signal from the telephone network;
8 a bus disposed in the case;
9 a processor disposed in the case and coupled to the output unit and the input
10 unit via the bus;
11 said input unit receiving access data and storing the access data in memory;
12 and
13 said processor retrieving the access data from memory and sending them to
14 the telephone network in response to detecting the available access signal.

1 27. A method for automatically dialing a telephone number from a computer
2 comprising the steps of:
3 a) inserting a credit card sized dialer into the computer and coupling the dialer
4 to a bus in the computer;
5 b) receiving a telephone number for dialing in the dialer via an input/output
6 port in the card;
7 c) storing the telephone number in the dialer;
8 d) outputting the telephone number to a telephone network in response to
9 receiving an access signal via the input/output port on the dialer;
10 e) waiting after outputting the telephone number for a response from the
11 telephone network;

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12 f) outputting additional data to the telephone network via the input/output
13 port on the dialer upon receiving the response from the telephone network in step e).

1 28. The method according to claim 27, further comprising the steps of:
2 g) transmitting audible signals from the dialer to a telephone handset to access
3 the telephone network; and
4 h) receiving audible signals from the telephone handset with the dialer.

1 29. The method according to claim 27, further comprising the steps of:
2 g) receiving access data from the computer in the dialer; and
3 h) storing at least temporarily the access data in memory in the dialer.

1 30. The method according to claim 27, further comprising the step of:
2 g) programming the processor from an external source with telephone
3 numbers and access data.

1 31. The method according to claim 27, further comprising the steps of:
2 g) transmitting account information upon detection of a request signal from
3 the telephone network.

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